



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-0593; Directorate Identifier 2015-NE-08-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all Rolls-Royce plc (RR) RB211-535E4-37, RB211-535E4-B-37, and RB211-535E4-C-37 turbofan engines. This proposed AD was prompted by RR updating the life limits for certain high-pressure turbine (HPT) disks. This proposed AD would require reducing the cyclic life limits for certain HPT disks, removing those disks that have exceeded the new life limit, and replacing them with serviceable parts. We are proposing this AD to prevent failure of the HPT disk, which could result in uncontained disk release, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: 202-493-2251.

For service information identified in this proposed AD, Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0593; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England

Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-0593; Directorate Identifier 2015-NE-08-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2014-0249R1, dated February 18, 2015 (referred to hereinafter as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

An engineering analysis, carried out by RR, of the lives of critical parts of the RB211-535E4-37 engine, has resulted in reduced cyclic life limits for certain high pressure (HP) turbine discs. The reduced limits are published in the RR RB211-535E4-37 Time

Limits Manual (TLM): 05-10-01-800-000, current Revision dated July 2014.

Operation of critical parts beyond these reduced cyclic life limits may result in part failure, possibly resulting in the release of high-energy debris, which may cause damage to the aeroplane and/or injury to the occupants.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0593.

Related Service Information under 1 CFR Part 51

We reviewed RR Non-Modification Service Bulletin (NMSB) No. RB.211-72-G188, Revision No. 1, dated October 30, 2013, and RR RB211-535E4-37, Time Limits Manual (TLM): 05-10-01-800-000, Revision dated July 1, 2014; and RR RB211-535E4-37, TLM: 05-00-01-800-000, Revision dated July 1, 2014. The NMSB describes the updated lifing analysis of the affected HP turbine disks. The TLMs provide revised life limits for the affected HP turbine disks. This service information is reasonably available because the interested parties have access to it through their normal course of business or see ADDRESSES for other ways to access this service information.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type

design. This proposed AD would require reducing the cyclic life limits for certain HPT disks, removing those disks that have exceeded the new life limit, and replacing them with serviceable parts.

Costs of Compliance

We estimate that this proposed AD affects 650 engines installed on airplanes of U.S. registry. We also estimate that it would take about 0 hours per engine to comply with this proposed AD. The average labor rate is \$85 per hour. Pro-rated cost of required parts cost would be about \$12,213 per engine. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$7,938,450.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Rolls-Royce plc: Docket No. FAA-2015-0593; Directorate Identifier 2015-NE-08-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Rolls-Royce plc (RR), RB211-535E4-37, RB211-535E4-B-37, and RB211-535E4-C-37 turbofan engines.

(d) Reason

This AD was prompted by RR updating the life limits for certain high-pressure turbine (HPT) disks. We are issuing this AD to prevent failure of the HPT disk, which could result in uncontained disk release, damage to the engine, and damage to the airplane.

(e) Actions and Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) After the effective date of this AD, use RR RB211-535E4-37 Time Limits Manual (TLM): 05-10-01-800-000, Revision dated July 1, 2014 (referred to hereafter as ‘the TLM’), to determine the new life limits for the affected engine models and

configurations, with the exception of those engine models mentioned in paragraph (e)(2) of this AD.

(2) For RR RB211-535E4-B-37 or RB211-535E4-C-37 engines with an affected HPT disk that was previously installed on an RB211-535E4-37 engine operated under Flight Plan A, use task 05-00-01-800-000 in the TLM to re-calculate equivalent cycles since new to obtain the new life limit.

(3) If an affected engine model has an HPT disk installed with P/N UL27681 or UL39767, remove the affected HPT disk before the accumulated cyclic life exceeds either 19,500 flight cycles (FCs) under Flight Plan A, or 14,700 FCs under Flight Plan B, or within 25 FCs after the effective date of this AD, whichever occurs later.

(4) For all affected engines, other than those specified in paragraph (e)(3) in this AD, remove each HPT disk before exceeding its applicable life limit as specified in the TLM.

(5) Install an HPT disk eligible for installation.

(f) Definition

For the purpose of this AD, a part eligible for installation is one with a part number listed in the TLM with a total accumulated cyclic life that is less than the applicable life limit specified in the TLM.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(h) Related Information

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2014-0249R1, dated February 18, 2015, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2015-0593.

(3) RR Non-Modification Service Bulletin No. RB.211-72-G188, Revision No. 1, dated October 30, 2013, and RR RB211-535E4-37, TLM: 05-10-01-800-000, Revision dated July 1, 2014; and RR RB211-535E4-37, TLM: 05-00-01-800-000, Revision dated July 1, 2014, which are not incorporated by reference in this AD, can be obtained from Rolls-Royce plc, using the contact information in paragraph (h)(4) of this proposed AD.

(4) For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://www.aeromanager.com>.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on April 22, 2015.

Colleen M. D'Alessandro,
Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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